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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,245	07/30/2003	Akihiko Itami	56232.92	9380

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,245

Applicant(s)

ITAMI, AKIHIKO

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 10 and 11 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected apparatus, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 13 May 2005 and clarified in the telephone interview of 24 May 2005 (see attached interview summary). New claims 12-17 are examined with the elected invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 and 12-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claims are amended to specify that the photoreceptor is pressed to contact with the intermediate transferring member at image formation process. It is unclear in the claims if this refers to the "forming a latent image" step or to the "primarily transferring" step. From applicants' remarks it appears to be intended to refer to the transferring step but the claims as presented are not definite. The claims rather than the remarks must define the invention. Clarification is required.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 7, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsukawa *et al.* in US Patent 5,629,117 in view of *Handbook of Imaging Materials*, Diamond, Arthur S & David Weiss (eds.) pp. 149-168 and further in view of Nishise *et al.* in US Patent 5,196,893.

This rejection was set forth in the last Office action with the exception of Nishise. This reference is added to the rejection because of the new limitation in claim 1 that specifies the photoreceptor is pressed to contact with the intermediate transferring member at image formation process. As noted in the last Office action, Diamond shows that the use of an intermediate transfer member is conventional in the art (see pages 166-168). Diamond does not disclose that the photoreceptor is pressed to contact with the intermediate transferring member at image formation process but Nishise teaches that it is conventional to have the intermediate transfer member on contact with a photoreceptor (col. 1, l. 29-43). Nishise teaches that it is advantageous to have the intermediate transfer member, which is in the form of a belt, in contact with the photoreceptor only during the image formation (i.e., image transfer) process because it reduces wear and damage to both the photoreceptor and the intermediate transfer member (col. 1, l. 46-64; col. 4, l. 14-25). This intermediate receptor is used in a process having a two-component developer comprising carrier and toner (col. 3, l. 22-43).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to press the intermediate transfer belt against the photoreceptor during transfer, as discussed by Diamond, because Nishise teaches that it is conventional to have the

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intermediate transfer member in contact with the photoreceptor. Further Nishise teaches certain advantages of having the intermediate transfer member in contact with the photoreceptor only when necessary to perform image formation (i.e., transfer).

The rejection is extended to claims 7 and 15-17 because of the disclosure of the belt in Nishise and the structure with rollers shown in the Figures. The artisan would have found it obvious to optimize the pressure of contact in order to provide as full transfer as possible to the intermediate member while not damaging the photoreceptor.

Applicants traverse the rejection because Diamond & Weiss only teach the intermediate transfer process, not the developing process or transfer process (response p. 6). The Examiner has carefully considered applicants' remarks but cannot agree. Diamond and Weiss teach steps include a charging step, an imaging or light exposure step of the photoreceptor to form an electrostatic latent image, a development step to develop the latent image with toner, a transfer step to transfer the toner image to a receiver directly or via an intermediate member as in full color imaging, a fixing step to fix the toner image to a final receiver, and a cleaning step to clean residual toner from the surface of the photoreceptor such as by a cleaning blade (pp. 149-168). Clearly the reference teaches more than just intermediate transfer.

Applicants also criticize Katsukawa because two-component development and intermediate transfer with pressure are not disclosed. Diamond, as discussed previously, fully discloses intermediate transfer and also discloses two-component development (pp. 155-156). Similarly, Nishise discloses intermediate transfer, as discussed above, and discloses transfer of a developed image from a two-component developer (col. 3, l. 22-42). Clearly the art discloses these features and the art motivates combining the references' teachings for the reasons given above and as given in the last Office action.

Applicants also criticize the rejection because the artisan would not presume the claimed creeping modulus from the disclosure of Katsukawa, particularly in Example 705. No reasons are given for this conclusion. The Examiner, on the other hand, has provided specific reasons explaining why one of ordinary skill in the art would have reason to believe that the organic photoreceptor of Katsukawa would inherently have the claimed creeping modulus. A simple statement to the contrary is not an effective traversal.

The rejection is maintained as modified, due to applicants' amendments.

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsukawa *et al.* in US Patent 5,629,117 in view of *Handbook of Imaging Materials*, Diamond, Arthur S & David Weiss (eds.) pp. 149-168 and further in view of Nishise *et al.* in US Patent 5,196,893 as applied to claims 1, 7 and 15-17 above, and further in view of *Handbook of Imaging Materials*, Diamond, Arthur S & David Weiss (eds.) pp. 209-220.

Katsukawa, Diamond and Weiss pp. 149-168, and Nishise were discussed above. These references do not disclose the specific carrier of the above rejected claims, but the additional pages cited to Diamond and Weiss (pp. 209-220) discloses the conventional construction of carrier particles. These carriers include resin coated carriers (Figure 6.1) and composite carriers of magnetic powder in a binder resin (p. 220). Conventional magnetic materials include ferrites (pp. 218-219). Resin coating of a magnetic (e.g., ferrite) core permits the artisan to control the triboelectric charge imparted to the toner by the carrier.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a conventional carrier as a developer component in the conventional image forming process taught by Diamond and Weiss, particularly when considered with Nishise, because Diamond and Weiss teach that two-component development is well known

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and practiced in the art for the conventional development process and Nishise discloses that two-component developers are effective when used with an intermediate transfer member.

Claims 1, 5-7 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa *et al.* in US Patent Application Publication 2002/0045116 in view of *Handbook of Imaging Materials*, Diamond, Arthur S & David Weiss (eds.) pp. 149-168 and further in view of Nishise *et al.* in US Patent 5,196,893.

This rejection was set forth in the last Office action with the exception of Nishise. This reference is added to the rejection because of the new limitation in claim 1 that specifies the photoreceptor is pressed to contact with the intermediate transferring member at image formation process. As noted in the last Office action, Diamond shows that the use of an intermediate transfer member is conventional in the art (see pages 166-168). Diamond does not disclose that the photoreceptor is pressed to contact with the intermediate transferring member at image formation process but Nishise teaches that it is conventional to have the intermediate transfer member on contact with a photoreceptor (col. 1, l. 29-43). Nishise teaches that it is advantageous to have the intermediate transfer member, which is in the form of a belt, in contact with the photoreceptor only during the image formation (i.e., image transfer) process because it reduces wear and damage to both the photoreceptor and the intermediate transfer member (col. 1, l. 46-64; col. 4, l. 14-25). This intermediate receptor is used in a process having a two-component developer comprising carrier and toner (col. 3, l. 22-43).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to press the intermediate transfer belt against the photoreceptor during transfer, as discussed by Diamond, because Nishise teaches that it is conventional to have the intermediate transfer member in contact with the photoreceptor. Further Nishise teaches certain

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advantages of having the intermediate transfer member in contact with the photoreceptor only when necessary to perform image formation (i.e., transfer).

The rejection is extended to claims 7 and 15-17 because of the disclosure of the belt in Nishise and the structure with rollers shown in the Figures. The artisan would have found it obvious to optimize the pressure of contact in order to provide as full transfer as possible to the intermediate member while not damaging the photoreceptor.

Applicants traverse this rejection as previously set forth because Morikawa does not measure creeping modulus in Figure 1. Applicants note that Figure 8 of the present application measures creeping modulus in a different manner than the value measured by Morikawa. While this is true, the Examiner has provided reasoning why the artisan would have found it obvious to optimize the hardness of the instant invention and has discussed why optimizing the hardness of Morikawa's photoreceptor would also optimize the creeping modulus of the instant invention.. As discussed there, the artisan would also have found it obvious to optimize the hardness and abrasion resistance of Morikawa's photoreceptor because Morikawa teaches that these are result effecting variables in the art and that these characteristics are measured by an indentation process. The artisan would recognize that the instant creeping modulus is also measuring the hardness of the photoreceptor given the similar measurement techniques. Consequently, optimization of the hardness according to Morikawa would also optimize the hardness measured in the process of the instant invention. Applicants appear to agree on page 7 that Morikawa does suggest the claimed creeping modulus (see line 4).

The combination of Morikawa with Diamond and Weiss remains applicable, particularly as now presented with Nishise, because Diamond and Weiss teach steps include a charging step, an imaging or light exposure step of the photoreceptor to form an electrostatic latent image, a development step to develop the latent image with toner, a transfer step to transfer the

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toner image to a receiver directly or via an intermediate member as in full color imaging, a fixing step to fix the toner image to a final receiver, and a cleaning step to clean residual toner from the surface of the photoreceptor such as by a cleaning blade while Nishise teaches that it is conventional to have the intermediate transfer member in contact with the photoreceptor.

Further Nishise teaches certain advantages of having the intermediate transfer member in contact with the photoreceptor only when necessary to perform image formation (i.e., transfer).

There is ample motivation to arrive at the claimed process from the applied art.

The modified rejection is proper for the claimed invention as amended.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa *et al.* in US Patent Application Publication 2002/0045116 in view of *Handbook of Imaging Materials*, Diamond, Arthur S & David Weiss (eds.) pp. 149-168 and further in view of Nishise *et al.* in US Patent 5,196,893 as applied to claims 1, 5-7, and 15-17 above, and further in view of Kojiima *et al.* in US Patent 6,562,529.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa *et al.* in US Patent Application Publication 2002/0045116 in view of *Handbook of Imaging Materials*, Diamond, Arthur S & David Weiss (eds.) pp. 149-168 and further in view of Nishise *et al.* in US Patent 5,196,893 as applied to claims 1, 5-7, and 15-17 above, and further in view of Itami *et al.* in US Patent 6,203,962.

These rejections are modified in the same manner as the base rejection. Applicants criticize Kojima and Itami because these supporting references do not cure any of the alleged deficiencies of the other references. As noted above, there are not deficiencies in the rejection presented for the claimed invention. The combination of Morikawa with Diamond and Weiss remains applicable, particularly as now presented with Nishise, because Diamond and Weiss

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teach steps include a charging step, an imaging or light exposure step of the photoreceptor to form an electrostatic latent image, a development step to develop the latent image with toner, a transfer step to transfer the toner image to a receiver directly or via an intermediate member as in full color imaging, a fixing step to fix the toner image to a final receiver, and a cleaning step to clean residual toner from the surface of the photoreceptor such as by a cleaning blade while Nishise teaches that it is conventional to have the intermediate transfer member in contact with the photoreceptor. Further Nishise teaches certain advantages of having the intermediate transfer member in contact with the photoreceptor only when necessary to perform image formation (i.e., transfer). There is ample motivation to arrive at the claimed process from the applied art.

Allowable Subject Matter

Claim 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
19 December 2005


CHRISTOPHER RODEE
PRIMARY EXAMINER